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SCHEDULE OF MEETINGS

2-7 December	**Study Group on the Preventive Aspects in the Teaching of Physiology**
2-20 December	**Environmental Sanitation Seminar, Zone II, Singapore**
7-12 December	**Meeting on Malaria Eradication, Baghdad**
9-14 December	**Expert Committee on Health Statistics, Sub-Committee on Cancer Statistics, Geneva**
11-13 December	**Antimalaria Co-ordination Board, Bangkok**
13-20 December	**Malaria Symposium, Bangkok**
6-13 January	**Standing Committee on Administration and Finance of the Executive Board, Geneva**
14 January (approximately 2-3 weeks)	**Twenty-first session of the Executive Board, Geneva**
24-28 February	**Expert Committee on Medical Rehabilitation, Geneva**

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THE MECCA PILGRIMAGE *

The final stage in the international sanitary control of the Mecca Pilgrimage was reached in May of last year, when, during the Ninth World Health Assembly, everything specifically dealing with this subject was deleted from the International Sanitary Regulations and their annexes.

Thus, after sixty-five years of international sanitary control, the Mecca Pilgrimage was freed from special health measures on 1 January 1957. Since this historic date the Mecca pilgrims have been subject to the same health regulations as other international travellers.

Origin and nature of the Pilgrimage

In the year 10 of the Hegira (AD 632), the Prophet Mohammed, who lived in Medina, decided to perform his " Farewell Pilgrimage ". When he arrived at the Holy Place of Mena, he addressed his followers for the last time: " To-day ", he said, " I have completed the building of your religious faith. Let Islam be your faith ". Since that date, the Islamic faith demands that Moslems should perform the Haj, or Great Pilgrimage to Mecca, at least once in their lives, provided they have the necessary means. It is not enough to visit the Holy Places in the Hedjaz at any time of the year. Merit can be acquired only by participation in the mass demonstration of faith decreed to take place every year on the tenth day of Dhu-al-Higga, the last month of the Arab year. To fulfil this sacred duty, a Moslem will make any sacrifice. Some indeed devote their whole lives to the attainment of this goal.

The majority of pilgrims are from the middle and poorer classes. Some are extremely poor; with nothing but faith in their hearts and their staffs in their hands, they walk from their home countries, sometimes for years, begging their way to the Hedjaz. Others can afford only the expenses of the outward journey. The destitution of so many pilgrims has led a number of governments to take measures to prevent the departure of any pilgrim unless his return ticket is paid for.

Every year, three months before the date prescribed, thousands of Moslems from every part of the world converge on Mecca in large numbers. In the early years, the majority came by caravan from Asia and Africa across the Arabian deserts; now the majority come by sea and a very great number travel by air.

The small town of Mecca gradually becomes thronged with pilgrims. On the ninth day of Dhu-al-Higga, " the day of Arafat ", about half a million Moslems gather for the consecration of the Pilgrimage at Mount Arafat, a bleak, open hill about 12 miles east of Mecca. Here, clad only in the symbolic garb of purity, an unstitched white sheet, every pilgrim must spend the first day of the Pilgrimage.

In the evening of the same day, they move to Mozdalifa, about four miles from Mount Arafat. Here they camp for the night, and the following day they proceed to Mena, about two miles from Mecca, for three or four days of religious ceremonies, characterized by the sacrifice of thousands of camels, sheep and other animals.

On the twelfth or thirteenth day of Dhu-al-Higga, the pilgrims return to Mecca, which is once more filled to overflowing.

An important tradition of the Pilgrimage is that every pilgrim must drink the holy water of the Zam-Zam well; [1] moreover, many pilgrims take home tins of the water for their friends and relations.

With the return of the pilgrims to Mecca, the Pilgrimage ceremonies come to an end and the pilgrims disperse.

* Prepared by Dr W. Omar, WHO Regional Office for the Eastern Mediterranean.

[1] The Zam-Zam well is a shallow open well from which water is drawn by buckets.

Sanitary problems of the Mecca Pilgrimage in the past

The conditions under which the Pilgrimage to Mecca was performed in the past, particularly by the poorer pilgrims, were so rigorous as to be a severe strain on even the strongest. A large number of the pilgrims were old and infirm; some of them made the Pilgrimage with the sole object of dying in the Holy Land. It was found by experience that, while deaths among pilgrims on the outward journey were comparatively rare, mortality after the Pilgrimage ceremonies and on the journey home was sometimes very high even in the absence of epidemics. For this reason, a number of countries now subject pilgrims to a medical examination before allowing them to proceed to the Hedjaz.

The lunar Arabic year is eleven days shorter than the Gregorian year, so that, although the Pilgrimage takes place at a fixed date on the Arabic calendar, it falls somewhat earlier each succeeding year. This means that pilgrims are subjected to climatic conditions ranging, according to the date of the Pilgrimage, from the merciless winds of a desert winter to the fiercest heat of summer. It is, therefore, not surprising that pilgrims may be affected by sunstroke.

In the past, appalling overcrowding and primitive environmental sanitation facilities, coupled with severe climatic conditions, made the Pilgrimage an ideal breeding-ground of infection.

The Mecca Pilgrimage and past pandemics

The majority of Mecca pilgrims come from countries where such pestilential diseases as cholera, plague and smallpox are endemic, and their presence in large numbers in the holy towns of Islam at one time made the Hedjaz a danger-spot from which epidemics of these diseases were liable to spread all over the world.

Malaria, dysentery and other water-borne epidemic diseases were always common among returning pilgrims, as was smallpox until vaccination of pilgrims was made compulsory by most of the countries concerned.

In 1896 the Pilgrimage was, for the first time, affected by a plague pandemic, and the disease reappeared in Jeddah in the following year. The infection was thought to have been introduced by pilgrims from Sana (Yemen) where plague was prevalent. Between 1897 and 1918 there were nine outbreaks of plague at the Pilgrimage, but none has been reported from the Hedjaz since then.

Although plague has been treated in all the International Sanitary Conventions on the same footing as cholera, it has never been of the same epidemiological importance during the Pilgrimage. Outbreaks of plague at the Pilgrimage have mainly been confined to the inhabitants of the Hedjaz, and there have been few victims among the pilgrims themselves. The anti-rat and quarantine measures now taken in ships may be considered as a sure safeguard against the spread of plague.

Cholera, the worst enemy of the Pilgrimage

Of all the diseases which have attacked or threatened the Pilgrimage, none has been so serious and so disastrous as cholera. It was the spread of cholera, as a result of the Mecca Pilgrimage, to Europe and to the rest of the world which first led to international agreements putting the Pilgrimage under special sanitary control. With pilgrims coming from areas in which the disease is endemic, and subjected to conditions of living which could set off an infection or favour its spread, it is not surprising that cholera has been the worst enemy of the Pilgrimage.

One notable cholera pandemic spread by the Pilgrimage originated in India in 1863. The disease broke out in Mecca two years later during the Jubilee Pilgrimage of 1865, in which a particularly large number of pilgrims took part. After the Pilgrimage the infection was carried by African pilgrims to their own countries, appearing in Egypt and in all the Mediterranean ports, whence it

reached, by means of emigrants, the Senegal and North America, Brazil and Paraguay.

The 1902 epidemic is a second example. After a respite of seven years, cholera reappeared in the Hedjaz in March 1902. Three months later it broke out suddenly at Moucha (a small village in Upper Egypt), spreading rapidly all over the country and causing 42 000 deaths. According to some reports, the source of this terrible epidemic was some Zam-Zam water poured by a pilgrim into the well at Moucha, his home village. From Egypt, the epidemic spread to Syria, Palestine and Iraq. Two years later, it crossed Persia, reaching the Caspian Sea, Russia and Poland, subsequently appearing in Holland, Belgium, Germany, Austria, Italy and France.

It is believed that cholera first appeared at Mecca in 1831. Between that date and 1912 there were twenty-three cholera epidemics in the Hedjaz, but since then the disease has not been reported from the area.

From the available epidemiological data, it appears that the cholera outbreaks occur mainly during the Pilgrimage period reaching a peak on the days when all the pilgrims are gathered together for the ceremonies at Arafat and Mena. As explained above, the epidemics may develop at any time of the year. Cholera outbreaks have occurred in winter as well as in summer, so that atmospheric conditions are eliminated as a factor in the epidemiology of cholera in the Hedjaz. A study of the records of the cholera epidemics in the Hedjaz shows, however, that the winter epidemics are longer and more frequent than the summer epidemics. Finally, cholera arrives in the Hedjaz nearly always by sea and from the south, though, in exceptional cases, it may come by the land routes. In 1846 and 1872 it was introduced by land from the north (Iraq) and in 1859, 1890, 1891, 1893 and 1902 by small caravans from the south (Yemen and Asir).

Prior to 1866, pilgrims travelling to the Hedjaz by sea used sailing vessels. The voyage was long and the pilgrims few in number. A new factor came into play in 1866 when steam navigation was used for the first time to carry pilgrims from India and Egypt to the Hedjaz. This means of transport replaced, to a large extent, the land caravans which had served as veritable " mobile quarantine stations " since their slowness gave epidemics time to die out in the desert before they could be carried back to the pilgrims' home countries.

The development of steam navigation and the opening of the Suez Canal, by shortening the journey to Mecca, both from the east and the west, favoured the spread of epidemics in both directions.

Thus, in the latter half of the nineteenth century, Mecca became a " springboard " for the spread of cholera from India to the rest of the world, and the problems of international sanitary control raised by the Pilgrimage could no longer be ignored.

Early attempts at international control

In 1851, the first international conference to discuss a programme for the protection of Europe against diseases imported from the East was held in Paris. Many similar conferences followed, but for a number of years no formal agreement on the subject was reached.

Nevertheless, without being bound by any signed international convention, some of the countries concerned applied certain of the recommendations made at these conferences with regard to the Mecca Pilgrimage.

Thus the first sanitary measures for the control of Pilgrimages were applied by Egypt in 1858. Ships carrying returning pilgrims and having on board cases, or suspected cases, of cholera had to be put under quarantine for ten days. The period of quarantine was reduced to five days for ships without any cases aboard.

In 1859, it was recommended that a medical officer should be appointed to every pilgrim ship, while in 1864, the number of pilgrims the vessels were authorized to carry was fixed according to their tonnage.

The cholera pandemic spread by the 1865 Pilgrimage caused 60 000 deaths in Egypt alone over a three-month period, swept rapidly through Europe and even travelled as far as New York. This alarming situation

prompted the Constantinople International Sanitary Conference of 1866, at which a certain number of sanitary control measures were recommended, including the medical examination of pilgrims leaving the Hedjaz by sea, and the prohibition of travel home by the sea route in the event of a cholera outbreak at Mecca.

The first International Sanitary Conventions

It was not, however, until the International Sanitary Conference at Venice, in 1892, that the First International Sanitary Convention was signed and ratified and the sanitary control of the Mecca Pilgrimage became the subject of an international agreement.

A comprehensive study of the problem was made and a certain number of measures were prescribed. It was agreed that each pilgrim ship should be provided with a disinfection stove and carry a qualified doctor on board.

Quarantine control was imposed on all ships returning north after the Pilgrimage. Ships coming from the Arab coast of the Red Sea and carrying pilgrims had to call at El Tor Quarantine Station in the Gulf of Suez, where the pilgrims were put under observation for a period of 15 days if the ship carried an unclean bill of health for cholera, and for a period of three to four days if the ship carried a clean bill of health.

The El Tor Quarantine Station had already demonstrated its effectiveness by preventing the spread of cholera from Mecca to the west in 1890 and 1891, and was to do so again on a number of occasions when, thanks to its vigilance, cholera epidemics reported in the Hedjaz failed to reach Egypt.

One of the main subjects discussed during the Venice Conference of 1892 was the reorganization of the Sanitary Maritime and Quarantine Board of Egypt, under whose auspices the first quarantine stations for pilgrims had been established.

Further measures relating to the Mecca Pilgrimage were added at a conference in Paris in 1894. It was prescribed that pilgrims could not proceed to the Hedjaz unless they had deposited a sum of money to cover the expenses of their voyage and the maintenance of their families during their absence; that they should undergo a medical examination at their home ports of departure, and be disinfected before embarkation; and that they should be put under observation for a period of five days before embarkation, if the port of departure was infected with cholera.

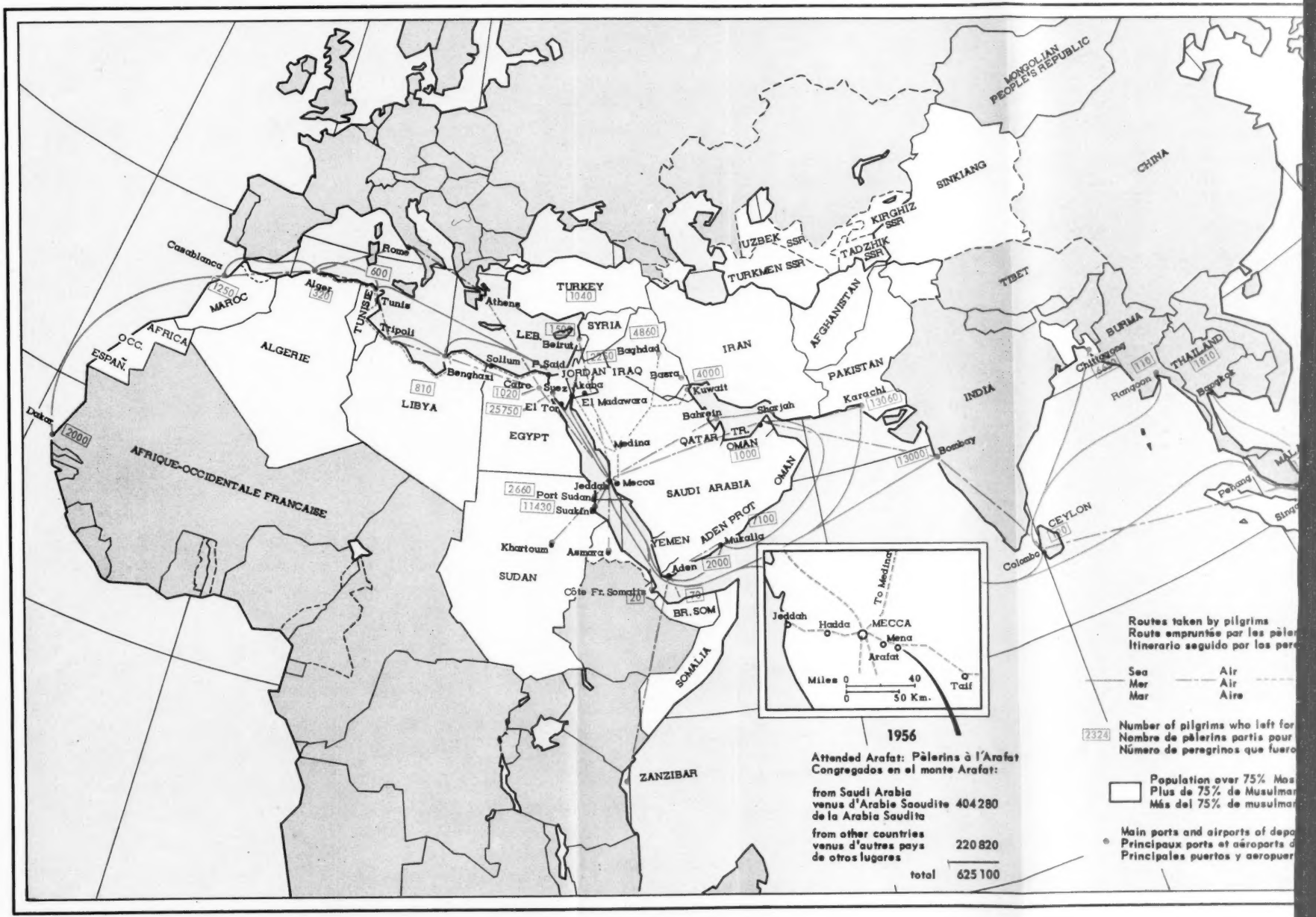
The 1894 Convention also included a detailed description of the sanitary equipment of a pilgrim ship as well as measures for the sanitary control of these ships before and during the voyage. All pilgrim ships coming from the south were required to put in at Kamaran Sanitary Station, where the pilgrims were submitted to quarantine control before proceeding to the Hedjaz. Medical examination and disinfection of returning pilgrims at the Hedjaz ports of departure were also prescribed.

In a new Convention signed at Venice in 1897, measures similar to those against cholera were included for plague. Conferences at Paris in 1903 and 1912 consolidated the provisions of the earlier conventions concerning the Mecca Pilgrimage.

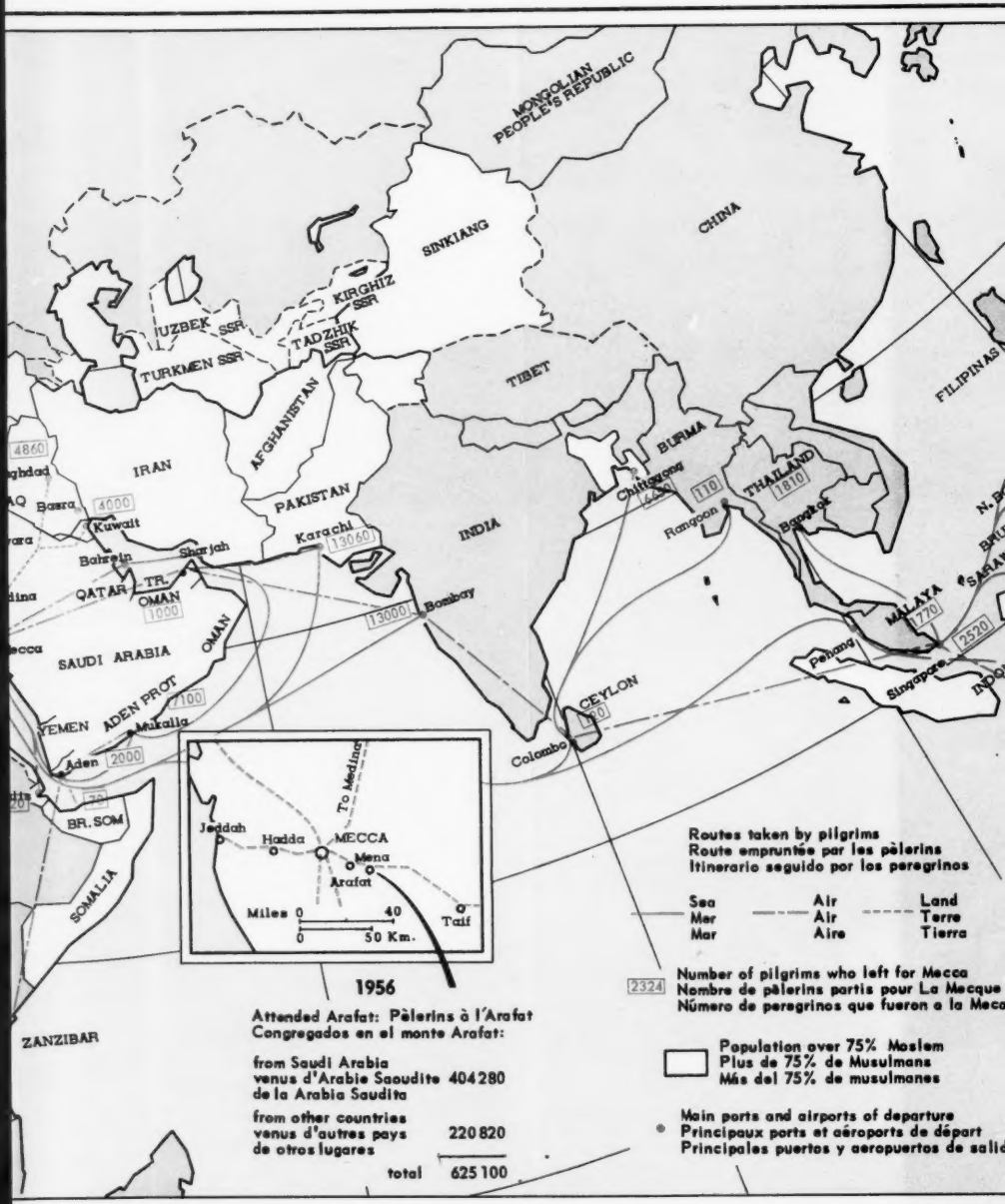
The 1926 International Sanitary Convention

The activities of the Office International d'Hygiène Publique (OIHP), established by an agreement signed at Rome in 1907, and the work of the Health Organization of the League of Nations, established in 1921, paved the way for the adoption of the 1926 International Sanitary Convention. This Convention, Part 3 of which is devoted to special provisions regarding the Pilgrimage and to specific regulations setting forth the sanitary control measures for all ships carrying pilgrims, served as a charter for the guidance of quarantine services for more than twenty-five years. It covers in detail the measures to be taken prior to the embarkation of the pilgrims, sanitary and medical facilities aboard the pilgrim ships, and quarantine regulations for outward and homeward voyages by various sea routes, as well as for caravans and trains.

MECCA PILGRIMAGE, 1956 PÈLERINAGE DE LA MECQUE, 1956 LA PEREGRINACION A LA MECA, 1956



ERINAGE DE LA MECQUE, 1956 LA PEREGRINACION A LA MECA, 1956



1956

Attended Arafat: Pèlerins à l'Arafat
Congregados en el monte Arafat:

from Saudi Arabia venus d'Arabie Saoudite de la Arabia Saudita	404 280
from other countries venus d'autres pays de otros lugares	220 820
total	625 100

Routes taken by pilgrims
Route empruntée par les pèlerins
Itinerario seguido por los peregrinos

Sea — Mer — Mar
Air — Air — Aire
Land — Terre — Tierra

2324 Number of pilgrims who left for Mecca
Nombre de pèlerins partis pour La Mecque
Número de peregrinos que fueron a la Meca

Population over 75% Moslem
Plus de 75% de Musulmans
Más del 75% de musulmanes

Main ports and airports of departure
Principaux ports et aéroports de départ
Principales puertos y aeropuertos de salid

grims
les pèlerins
or los peregrinos

Land
Terre
Tierra

no left for Mecca
rtis pour La Mecque
que fueron a la Meca

75% Moslem
Musulmans
musulmanes

ts of departure
éroports de départ
aeropuertos de salida

WHO 7427

The 1926 Convention was supplemented by two important agreements: the Anglo-Dutch Agreement (1926) on the control of the pilgrimage traffic from the south at Karaman Quarantine Station, and the Agreement of 1929 between the Arab countries of the Middle East on the principal measures to be taken to ensure good health conditions for the pilgrims of this region.

In the second of these agreements, vaccination against smallpox and anti-cholera inoculation were made compulsory for all pilgrims before they left their countries for the Hedjaz. The issue of a special " Pilgrimage passport " and the compulsory use of specified itineraries by the pilgrims on their way to and from the Hedjaz were also decided upon by the countries signing the agreement.

Experience in the application of the provisions of the 1926 Convention further demonstrated the value of quarantine stations as barriers against the spread of epidemics. In 1926, for example, when cases of cholera were landed from a pilgrim ship coming from Calcutta and isolated at Kamaran Station, there was no outbreak of cholera in the Hedjaz.

Article 151 of the 1926 Convention stipulated that the Sanitary Maritime and Quarantine Board of Egypt should compile an annual report on the Mecca Pilgrimage, and on sanitary conditions in the Hedjaz and all regions traversed by the pilgrims, for distribution to the Office International d'Hygiène Publique and to all countries concerned.

With the suppression of the Sanitary Maritime and Quarantine Board of Egypt under the terms of the Paris Convention of 1938, the responsibility for producing an annual report on the Pilgrimage was transferred to the Office International d'Hygiène Publique. Its last report, covering the 1945 Pilgrimage, was published in 1946.

The International Sanitary Regulations

In the early months of its existence, the Interim Commission of the World Health Organization established an Expert Committee on International Epidemiology and Quarantine, which was entrusted with the task of merging and revising existing sanitary conventions. A Sub-Committee was concerned with the sanitary control of the Mecca Pilgrimage.

The Expert Committee formulated a series of principles to serve as a basis for the preparation of the new International Sanitary Regulations. A final version was drawn up after consultation with governments and interested international organizations and was unanimously adopted by the Fourth World Health Assembly in May 1951 as the text of the International Sanitary Regulations. These Regulations came into force in October 1952.

In view of the special epidemiological significance of the Pilgrimage, it was found advisable to maintain the rules governing its health control in the new Regulations, with certain modifications of the special provisions regarding the Pilgrimage in the 1926 Convention.

Since a large number of pilgrims now travel to the Hedjaz by air, special provisions had to be drawn up to meet this development. The standards of hygiene with which ships and aircraft carrying pilgrims must comply are to be found in Annex B of the Regulations.

In addition to the vaccination of pilgrims against cholera and smallpox, the Regulations require production of valid certificates of vaccination against yellow fever by pilgrims coming from a local area infected with yellow fever or from a yellow fever endemic zone.

The Kamaran Quarantine Station which had been responsible for the sanitary control of pilgrims coming by sea from the south, was replaced by the Quarantine Station at Jeddah. In the case of non-infected Pilgrimages, pilgrim ships returning northwards are submitted to sanitary control at Suez, instead of El Tor as was the case under the 1926 Convention. Plague, cholera, yellow fever, smallpox, typhus or relapsing fever may cause a Pilgrimage to be considered infected, in which case sanitary control of the returning pilgrims has to be carried out at El Tor and Jeddah Stations.

General adherence to these Regulations, on the part of the responsible authorities, has undoubtedly made a considerable contribution to the rapid improvement in standards of health control since the end of the Second World War. At this point, it should be mentioned that even before the adoption of the Regulations, the World Health Organization had taken over the work of issuing the yearly reports of the Mecca Pilgrimage, starting in 1947. Over the years these reports reveal some of the improvements in the health measures adopted for the protection of the pilgrims.

In 1956, the Government of Saudi Arabia invited a group of WHO Experts on quarantine matters to visit the country and to inquire into the provisions made for the health of the pilgrims during the Pilgrimage season.

The Director-General of WHO instructed this group to:

" visit the Quarantine station at Jeddah, and such other institutions as exist in Saudi Arabia related to the health of pilgrims; and to learn of any arrangements made with the same object;

make to the Health Authorities of Saudi Arabia such suggestions—if any—as may ensure the efficient functioning of the quarantine station and the institutions and arrangements related to the health of pilgrims;

inform the Saudi Arabian Government of the effectiveness, in protecting the health of pilgrims, of their installations, equipment and staff, either at their present stage of development or after the completion of such improvements as may have been suggested by the group ".[2]

The report submitted by this group of experts stated that the quarantine arrangements for the pilgrims at Jeddah were adequate and satisfactory from every point of view. At Mecca and Medina, the group noted that the development of health facilities had been fairly rapid, although some minor points required further attention. The report concluded with some suggestions for improvements.

The new Quarantine Station at Jeddah which replaced the old station on the island of Kamaran, was opened in April 1956. It is a well-planned, modern institution with up-to-date hospital, laboratory, pharmacy, refrigeration apparatus, laundry, water-supply and bathrooms.

The Ninth World Health Assembly considered the report of the group of experts on quarantine on their visit to Jeddah and noted that the Health Administration for Saudi Arabia is now fully equipped to deal with all sanitary problems connected with the Pilgrimage within its territory.

The special measures originating sixty-five years ago for the sanitary control of pilgrim traffic approaching or leaving the Hedjaz during the season of the Pilgrimage are thus no longer required, and the Ninth World Health Assembly accordingly deleted the relevant provisions of the International Sanitary Regulations and of Annexes A and B. However, as it was thought that some governments might wish to maintain certain special requirements for persons taking part in periodic mass congregations, especially routine cholera and smallpox vaccinations, one article of the Regulations (Article 103) was amended to permit such special treatment.

Similarly, in order that the deletion of Annex B of the Regulations which dealt with standards of hygiene on pilgrim ships and on aircraft carrying pilgrims, should not result in a deterioration of conditions on board, the States concerned agreed to retain the international standards in their national legislation.

Over a period of years, the countries from which the pilgrims set out have increased their efforts to ensure that only healthy and properly immunized persons leave for Mecca, and now the health authorities of Saudi Arabia have assumed important additional responsibilities for the sanitary control of the Pilgrimage.

[2] *Off. Rec. Wld Hlth Org.*, 72, 52

NEW DEVELOPMENTS IN THE PROTECTION OF CHILDREN BY MEANS OF VACCINATION

WHO has been concerned since its inception with the vaccination of children against smallpox, diphtheria, tetanus and whooping cough, as well as the vaccination of both adults and children against typhoid and paratyphoid fevers. The value of such vaccination is no longer disputed; for example, it is thanks to large scale vaccination that we may now hope to see diphtheria vanish. This disease has ceased to be an alarming problem in many countries where vaccination has been systematically carried out for several years. The same can be said of smallpox in most countries in the temperate zone. Nevertheless, smallpox is still endemic in certain tropical regions, from which it is sometimes accidentally introduced into healthy regions, causing more or less serious epidemic outbreaks. The WHO Committee on International Quarantine reported quite recently that in 1957 smallpox epidemics occurred in eight countries (Ceylon, Ghana, Iran, Italy, Lebanon, Sierra Leone, Sudan and the United Kingdom) and were definitely proved to have been caused by travellers coming from infected countries. Isolated imported cases were notified in ten other countries. Thus vigilance remains essential and vaccination measures must be maintained and even strengthened if necessary.

One of the major difficulties of smallpox vaccination in countries with a tropical climate was, until recent years, the impossibility of storing the glycerinated vaccine lymph at a low enough temperature to maintain its potency. The development of effective dried vaccines, which resist the temperatures encountered in the tropics, seems a promising solution to this problem of smallpox control and will be discussed later.

Systematic vaccination against typhoid and paratyphoid fevers remained virtually empirical for half a century, in the absence of laboratory methods and controlled field trials for scientific evaluation of the results. However, in 1953 a decisive step was taken when the Yugoslav Government undertook a strictly controlled pilot field trial, based on similar antipertussis studies in Great Britain. The results of this trial, which lasted for two years, are of considerable interest and will encourage other countries to take similar measures.

The preparation of vaccines against pertussis has involved work extending over many years. Variations in the effectiveness of the vaccines, and the impossibility of using laboratory tests to evaluate their potency, made the general application of such vaccines difficult. These drawbacks have been practically overcome and the recent establishment of an International Standard for Pertussis Vaccine clearly shows that reliable criteria for the evaluation of this vaccine are now available.

Role of WHO

As early as 1949, a group of expert consultants, convened by the Director General, examined the methods available to immunize children against the common infectious diseases. In 1952, a Conference of Heads of Laboratories Producing Diphtheria and Pertussis Vaccines, which met under the auspices of WHO, discussed methods for the preparation and use of these vaccines and formulated recommendations relating, in particular, to the use of combined vaccines. In 1954, a conference organized by WHO at Frankfurt-on-Main, with the collaboration of the Government of the German Federal Republic, was attended by public health administrators, paediatricians, epidemiologists and bacteriologists. Its purpose was to study the future prospects of vaccination against diphtheria, pertussis, tetanus, smallpox, measles, poliomyelitis, tuberculosis and scarlet fever in the light of recent research and field trials.

From 1952 onwards, WHO gave financial assistance and helped to organize the research work which led to the development of a dried smallpox vaccine. The Yugoslav typhoid vaccination project was successfully completed with the technical and financial support of WHO. The research on pertussis vaccine, the results of which were recently published, was also assisted by a financial grant from WHO.

Several International Reference Preparations and International Standards have been established for vaccines and diagnostic tests (plain and adsorbed diphtheria toxoids, tetanus toxoid, diphtheria toxin for the Schick test, pertussis vaccine—a smallpox vaccine preparation is under study).

It may also be mentioned in passing that WHO has contributed, jointly with UNICEF, to numerous vaccination campaigns against the diseases of childhood and has also facilitated vaccine production in various countries.

Improvements in vaccination techniques have aroused wide interest in most parts of the world. This is proved by the resolution of the Ninth World Health Assembly (1956), calling for the submission to the Tenth World Health Assembly of :

(1) a report on progress in the evaluation and production of typhoid, smallpox, and triple diphtheria-pertussis-tetanus vaccines; and

(2) a programme for further development in this field in 1958 and subsequent years.

The report called for in this resolution was submitted to the Tenth World Health Assembly.[1] The following information is taken from this report, as well as from the discussions to which it gave rise during the Assembly [2] and, except where otherwise indicated, from articles appearing in the various WHO publications.

Typhoid vaccination

Environmental sanitation measures which finally bring about the disappearance of diseases transmitted by polluted water are costly for a country as a whole, and their results are slow to appear. Consequently, certain governments have applied vaccination as an interim measure for the control of typhoid and paratyphoid fevers, but the actual results obtained had not been clearly evaluated, nor was it known what type of vaccine was most effective. The Government of Yugoslavia, aided by WHO and the United States Public Health Service, therefore, decided to undertake the first carefully planned and strictly controlled field trial of typhoid vaccine ever to be carried out. The provisional report on this pilot trial has been published in the *Bulletin of the World Health Organization* [3] and summarized in the *Chronicle*,[4] so that there is no need to deal with it at length here.

One of the two vaccines employed—heat-killed and phenol-preserved—gave protection which was particularly apparent in adolescents and children. The other—alcohol-killed and alcohol-preserved—seems to have given hardly any protection. The potency of these two vaccines was tested in various laboratories, but it proved impossible to detect any significant difference between them. Thus, at present, we cannot correlate the results of laboratory tests and of field trials. The resulting position is rather paradoxical; it is possible to prepare effective vaccines against typhoid fever, but we do not know upon what factors success depends, what is the best method of preparation nor what test can be relied upon to select the vaccine giving the best protection to human beings. This problem was examined during the past year and it became apparent that new field trials would be necessary. By reason of the cost of these studies, however, the vaccines which it is proposed to use will first be investigated in the laboratory. It is necessary to make sure that they are stable and that they show sharp enough differences in laboratory tests for a comparison of results obtained in the field with those obtained in the laboratory to be possible, useful and valid. As an initial step

[1] *Off. Rec. Wld Hlth Org.*, 71, 43
[2] *Off. Rec. Wld Hlth Org.*, 79, 326
[3] *Bull. Wld Hlth Org.*, 1957, 16, 897
[4] *Chron. Wld Hlth Org.*, 1956, 10, 153

it was decided to prepare two large batches of dried vaccine, one acetone-dried and the other heat-killed and freeze-dried. Adequate amounts of these vaccines will be prepared to establish later on, if the results of the field trials justify this, an International Reference Preparation for Typhoid Vaccine whose potency will have been tested in man. During the Tenth World Health Assembly, the Australian delegate stressed the interest of his country in a dried vaccine. The delegate of the USSR stated that the effectiveness of a repository preparation had been proved by fifteen years' observation. This preparation is a combination of several antigens (typhus, paratyphoid A, paratyphoid B, Sonne and Flexner dysenteries, cholera and tetanus).

Dried smallpox vaccine

Freeze-dried smallpox vaccines retain their potency for months or years, even in the tropics. One of the best vaccines examined still gave 100% of successful primary vaccinations after keeping for two years at 45°C.[5] Dried vaccines are already used in many campaigns. A symposium[6] sponsored by the Pan-American Sanitary Bureau, which acts as the Regional Office of WHO for the Americas, revealed that they were made and largely used in South America. It was also mentioned that hundreds of thousands of doses of this vaccine had been prepared using the embryonated egg—a method which can be substituted with advantage for the preparation of vaccine lymph in calves or sheep.

The disadvantage just mentioned as regards typhoid vaccine, i.e. the lack of correlation between the results of laboratory tests and of field trials, has recently been overcome as regards smallpox vaccine. An objective and accurate evaluation of the potency of a vaccine is now possible by means of laboratory tests, as well as the prediction, on the basis of the vaccine titre, of the percentage of successful vaccinations it will give. Counting of the pocks produced on the chorio-allantoic membrane by a vaccine when injected into the embryonated hen's egg enables a fairly accurate evaluation of its potency to be made. It has been found that, in order to give 100% successful vaccinations by the multiple pressure method, the vaccine must contain 10^7 infective units per 0.1 ml. The establishment of an International Reference Preparation for Smallpox Vaccine is being studied on this basis.

Pertussis vaccine and combined vaccines (diphtheria-tetanus-pertussis)

Pertussis vaccine

The part played by whooping-cough in infant mortality is often under-estimated by physicians as well as by the general public. Its almost world-wide distribution is often not realized.[7]

In the field trials of pertussis vaccination carried out a few years ago under the auspices of the Medical Research Council of Great Britain,[8] every precaution was taken to ensure the comparability of the results, and the protective power of pertussis vaccine was clearly proved. The percentage of clinical attacks (attack-rate) fell to less than 10% among vaccinated children exposed to infection in the family, whereas 80% to 90% of non-vaccinated children contracted the disease. But the vaccines which had given this result differed from one another in protective power (expressed as the number of cases per 1000 child-months). The aim of subsequent trials was to select from among routine laboratory tests one which would make it possible to correlate protection in the animal with protection in the child. The investigations carried out in this connection by the Medical Research Council[9]—with WHO assistance—covered nearly 29 000 children, followed up for an average of 2 years after vaccination. The five vaccines—out of the fourteen tested—which gave the

[5] Cockburn, W. C. et al. (1957) *Bull. Wld Hlth Org.*, **16**, 63

[6] An account of this symposium will appear in a forthcoming issue of the *Chronicle*.

[7] See in this connection *Chron. Wld Hlth Org.*, 1956, **10**, 252.

[8] Cockburn, W. C. (1955) *Bull. Wld Hlth Org.*, **13**, 395

[9] *Brit. med. J.*, 1957, **2**, 454

best results came from a mixture of recently isolated strains, which had been sub-cultured only a few times before being freeze-dried so as to preserve them under the optimum conditions for use as seed in vaccine production. The cultures were grown on Bordet-Gengou or a liquid medium and were killed and preserved with merthiolate. Mice were inoculated with these vaccines and the response evaluated in terms of agglutinins on the one hand and percentage protection against intracerebral injection of a challenge dose of *Haemophilus pertussis* on the other. These studies showed that a correlation existed between the protection conferred and the agglutinin titre in both children and mice. However, other studies have revealed that the agglutinin response in mice does not always give an exact indication of protection or of agglutinin response in children, so that this test cannot be regarded as a reliable guide to the value of all vaccines in children. On the other hand, the protection conferred by the vaccine against intracerebral infection of the mouse corresponds closely enough to the protection given the child for it to be regarded as indicative of the latter. Consequently the intracerebral mouse protection test was adopted to define vaccine potency, and the International Standard for Pertussis Vaccine was established on this basis in 1956.[10] It will now be possible to replace field trials, which are difficult to organize as well as expensive, by a laboratory test, and this represents a considerable advance.

Polyvalent vaccines (diphtheria-tetanus-pertussis)

The use of combined vaccines makes it possible to reduce the number of injections, thus avoiding the drawbacks attendant on the frequent vaccination of small children; it also has the advantage of curtailing administrative formalities as well as costs. The polyvalent vaccines have met with a favourable reception and are gradually entering into general use. Speaking on behalf of public health administrations, several delegates at the Tenth World Health Assembly expressed their interest in all advances made in this direction, since " the problem of so many people competing for the baby's arm ", in the words of the delegate of Ireland, is a serious one. The same delegate joined with others in asking WHO to do everything possible to develop a safe and effective " polyvaccine " (" cocktail " vaccine). It is known that pertussis vaccine enhances the potency of the plain toxoids (diphtheria and tetanus) when these are combined with it. It acts as an adjuvant at least in the absence of any other substance playing this part, but until quite recently the only way of comparing the effectiveness of pertussis vaccines alone with that of combined vaccines was by means of field trials, which it had not been possible to organize. However, it has been shown recently [11] that the agglutinin titre of the serum of children gives a satisfactory indication of the degree of protection conferred by the vaccine. Thus it is now possible to compare the effectiveness of single vaccines with that of polyvaccines by comparing the agglutinin titres of children inoculated with one or other of these two types. It is possible that such comparisons may be made even simpler by means of a mouse test.

Selection of the most suitable period in the life of the child for vaccination

The selection of the most favourable moment for administering a combined vaccine to children raises still further problems. It is advisable to carry out vaccination against pertussis during the first six months of life, since the disease is most often fatal in very young infants. According to Cockburn,[12] it is for each country to decide whether the advantages of inoculating children under six months of age with mixed antigens outweigh the disadvantages. Research is necessary in this connection. A further point calling for examination is the possibility of adding poliomyelitis vaccine to the three usual vaccines.

[10] *Wld Hlth Org. techn. Rep. Ser.*, 1957, **127**, 5

[11] *Brit. med. J.*, 1957, **2**, 454

[12] Cockburn, W. C. (1955) *Bull. Wld Hlth Org.*, **13**, 409

Possible sequelae

It has often been reported that paralytic symptoms can develop following the mixed vaccination of children already infected with poliomyelitis virus, particularly if the vaccine preparations contain an alum element. It was thought that this was a serious factor only during the poliomyelitis " season " and that all that was necessary to avoid such accidents was to carry out vaccination at some other time. However, more recent investigations, carried out under the auspices of the Medical Research Council of Great Britain, seem to indicate that these paralytic reactions are much more frequent among children aged from 6 months to 2 years than was supposed, and that the risk is at its height when the incidence of poliomyelitis is lowest (end of spring—beginning of summer). In the opinion of the WHO Expert Committee on Poliomyelitis, children vaccinated against poliomyelitis would not be subject to such accidents. However, it is not easy to vaccinate infants with vaccines such as those in current use and this problem is still under study.

Future prospects

The WHO programme for the coming years is briefly summarized in a resolution of the Tenth World Health Assembly, requesting the Director General " to continue studies on these [typhoid, smallpox and diphtheria-tetanus-pertussis] and other vaccines as outlined in the report, bearing in mind the desirability of conferring effective protection against the greatest possible number of diseases in the smallest possible number of doses ".[13]

The other diseases against which vaccination has already proved its worth and for which standardization of the vaccines concerned is now under study, include rabies, poliomyelitis, yellow fever, influenza and cholera. The Study Group on Recommended Requirements for Biological Substances, which met in Geneva from 7 to 12 October 1957, considered, in particular, the requirements which should be satisfied by biological preparations if they are to be accepted as effective prophylactic or therapeutic agents.

[13] *Off. Rec. Wld Hlth Org.*, **79**, 36

Meat hygiene

" This comprehensive book * fills a long felt want. It brings together under one cover a description of the best methods of meat handling and control of many different countries. Written by 16 experts from all parts of the world, it deals with the epidemiology of meat-borne diseases, ante-mortem care and inspection, methods of slaughter, post-mortem inspection, processing and marketing, and the training of personnel, with reviews of meat hygiene practices in Europe and in the tropics . . .

" Such a book places on record recent advances in knowledge for the benefit of responsible authorities, public health officials, veterinarians, and students. As a book of reference it is unrivalled, while its design and layout and its many illustrations, some of them coloured, make it an easy book to read."

Medical Officer, 1957, **97**, 210

* *Meat hygiene*, by various authors. (*World Health Organization : Monograph Series*, No. 33). Price: £2 10s., $10.00, Sw. fr. 30.— (clothbound).

THE PAN AMERICAN ZOONOSES CENTER *

The Pan American Zoonoses Center at Azul, Province of Buenos Aires, Argentina, is an international institution for the promotion and strengthening of activities against the zoonoses in the countries of the Americas. The Center was formally established on 10 August 1956 with the signing of an agreement between the Government of Argentina, as host country, and the Pan American Sanitary Bureau (Regional Office of the World Health Organization) as the responsible international agency. The work of organizing and installing the Center began later that year.

Site and facilities

After a careful study of the facilities offered by a number of countries, Argentina was selected as host country for the Center. Azul, a city of about 25 000 inhabitants, 185 miles south of the Argentine capital, is situated in an important livestock region. The co-operation of the medical and veterinary professions, livestock owners, hospitals, municipal authorities, and other local groups, is a great asset to the Center.

The building provided for the Center by the Argentine Government is of two-storey construction, with adequate space for present needs, including laboratories, offices, classrooms and a library. The host government provides the funds for the upkeep and servicing of the building, and has agreed to finance new construction as necessary.

The Argentine Government has also purchased a 370-acre farm-annex for the exclusive use of the Center. It is less than three miles from the main building and provides accommodation for isolation units, holding-pens, and the laboratory animal colony.

Administration

The Center was created to meet a wish expressed by various American Governments, individually or collectively, at several international meetings, both political and technical.

Its financial and material support is at present derived from three sources: the host government (Argentina); the Pan American Sanitary Bureau; and the United Nations Technical Assistance Programme. Negotiations are now in progress to extend financial support for the Center and ensure its operation on a permanent basis.

The permanent technical staff-members —physicians, veterinarians, and members of allied professions—are international officials, i.e., their posts are financed from international funds. In addition, international or special funds permit the employment of specialists in various aspects of zoonoses work for limited periods. The permanent auxiliary staff—consisting of semi-professional and non-skilled workers—is recruited in Argentina and is paid from funds contributed by the host government.

Functions and operations

The diseases classified as zoonoses are so many in number that the Center will not be able, at least initially, to give due attention to all of them. Priorities are being established in accordance with the relative impact of the different zoonotic diseases on human welfare and their geographical extension in the Americas. Thus, brucellosis, hydatidosis and rabies are being given the major share of attention, followed by virus encephalitides, anthrax, leptospirosis, tuberculosis, psittacosis, trichinosis and salmonellosis. This does not mean that the remaining diseases are to be completely ignored, since the Center is destined to be a clearing house for information on all the zoonoses. Furthermore, the priorities may be revised from time to time to meet epidemiological-epizootiological changes and recognized needs.

The Pan American Zoonoses Center is not intended to replace, nor to compete with,

* Prepared by Dr Benjamin D. Blood, Pan American Zooneses Centre, Azul, Argentina.

government zoonoses activities. Its role is to complement them by providing services that the individual countries have not found it possible to develop, and to co-ordinate them internationally. The principal functions and services of the Center are: education and training; consultation and co-ordination; laboratory services; demonstrations; research; and information.

Education and training

Educational and training activities are probably the most important part of the work of the Center. The shortage of well-trained personnel, whether professional workers or lay assistants, is widely recognized throughout the Americas, although the need is somewhat more acute in some countries than in others. It is obviously impossible to carry out successful diagnostic, field control, eradication, therapeutic or research work, without qualified staff. To help provide the personnel required, the Center offers a variety of training courses and opportunities for specialized study.

The training methods make full use of demonstrations and trainee-participation. Lectures are supplemented with audio-visual aids; laboratory work is arranged so that each trainee actually performs the specific techniques under study; field demonstrations make it possible for participants to become thoroughly familiar with methods for applying recognized measures of disease control.

Fellowships for training at the Center are provided by individual governments and by PASB/WHO; they will undoubtedly also be provided by other agencies. Both short-term and long-term training programmes are offered. Special courses, seminars, and "workshops", of from one to twelve weeks' duration, are being scheduled for persons already possessing certain professional or technical qualifications. An annual 3- to 4-week course on zoonoses control will be held for recent graduates from Schools of Public Health, including veterinarians, and also physicians intending to take up epidemiological or rural health assignments. Other courses will deal with laboratory procedures relating to brucellosis, including diagnosis and vaccine production; the diagnosis of rabies; and control methods for hydatidosis. An annual two-month course will provide non-professional field assistants with training in antizoonoses work. Further courses and seminars will be held as needs and possibilities arise.

Post-graduate courses, lasting between six and twelve months, are offered for special studies in one or more of the many branches of work on zoonoses. It is anticipated that this type of training will, in many cases, be developed in co-operation with the universities.

Such co-operation is highly desirable and, although its exact pattern remains to be developed, there are excellent opportunities for the Center to work with schools of public health, medicine and veterinary medicine, at both the undergraduate and post-graduate levels. One possibility is that students will carry out their field (or thesis) work at the Zoonoses Center after completing their formal university courses.

The educational activities of the Center also include the collection and distribution of audio-visual materials for use in programmes against the zoonoses. Materials of this type will, in addition, be produced at the Center on a limited scale when not already available.

Consultation and co-ordination

The Center provides advice on matters relating to the zoonoses and their control, by correspondence or by sending consultants, at government request, to countries with zoonoses problems. Special attention is being given to the development in each country of the necessary machinery for planning and operating control programmes for the zoonoses. This machinery should be based on united effort and provide for co-ordination and co-operation between public health and animal sanitation agencies, with maximum participation by the community.

Visits by consultants also provide an opportunity for the international co-ordination of control and eradication programmes.

Laboratory services

These services include: reference diagnosis and standardization of antigens, vaccines, sera and other biological products; confirmatory testing of such products for potency and safety; distribution of strains of viruses and bacteria for production or challenge purposes, and of standard antigens, vaccines and sera for use in check-testing.

The Center will keep a model colony of laboratory animals for training, demonstration and study purposes, as well as for supplying foundation stock to other institutions.

Demonstrations

The Center is using field campaigns against the various zoonoses for training purposes. Trainees actually take part in anti-zoonoses programmes, on the national as well as the provincial level, in Azul and other parts of Argentina. Demonstration work will also include the development of special control programmes for various zoonoses in different parts of the Americas, the number, type and extent of such programmes being dependent upon the needs, capabilities and desires of the country concerned.

Research

Research at the Center is of an applied nature: e.g., the evaluation of vaccines under certain field conditions, the practical application of diagnostic procedures, the assessment of drugs for their anti-parasitic effect, and similar projects. Surveys and epidemiological-epizootiological studies on certain of the zoonoses will also be undertaken. Other research plans include the collection and processing of statistical data on the occurrence and overall importance of the zoonoses in man and animals.

The needs and opportunities for research on the zoonoses are vast, and the Center itself can be expected to cover only a very small part of this work. Public and private institutions in all countries must, therefore, continue and intensify their own zoonoses research work, which it will be the responsibility of the Center to stimulate and co-ordinate.

Information

Facilities are being developed to permit the Center to serve as a source of both technical and popular information on the zoonoses. A library service will make microfilms and photocopies of technical references available to investigators and control officials. Priority is being given to the collection and cataloguing of books, periodicals, bulletins and reports on diseases common to man and animals.

The film library will contain as complete a collection as possible of films, filmstrips and slides on the zoonoses and their control. New films will be produced, when possible, on subjects for which no suitable material already exists.

A periodic information bulletin is to be published, containing abstracts of the world literature on zoonotic diseases as well as brief references to the latest developments in this field as they may occur in the Americas and elsewhere.

A collection of bulletins, pamphlets, illustrated booklets, posters, exhibits, and other items used with success on the public education side of zoonoses control is maintained for demonstration and loan. New material of this type will be prepared at the Center as needs and resources permit.

Notes and News

Regional Committee for Africa

The Regional Committee for Africa held its seventh session from 16 to 21 September 1957 at Brazzaville (French Equatorial Africa). Representatives of 10 Member and Associate Member States of the African Region attended, together with representatives of the United Nations and of several inter-governmental and non-governmental organizations. Dr B. M. Clark (Union of South Africa) and Dr E. W. A. Bannerman (Ghana) were elected Chairman and Vice-Chairman respectively, and Drs J. B. Titus (Liberia) and W. L. Barton (United Kingdom) acted as Rapporteurs.

As with the other Regional Committees, the main tasks at this regular session of the Regional Committee for Africa were the examination of the activities undertaken during the period 1 July 1956-30 June 1957 by WHO in collaboration with the governments of the Region, the introduction of any necessary modifications into the proposed programme for 1958, and the establishment of a proposed programme and budget for 1959. The Committee was also required to deal with certain questions relating to resolutions adopted by the Tenth World Health Assembly and by the Executive Board at its nineteenth session.

In the period under review, two important events occurred in the Region; Ghana became a full Member of WHO, and the Regional Office was installed in its new premises at Cité du Djoué, near Brazzaville.

Dr F. J. C. Cambournac, Regional Director for Africa, stated that the regional activities had expanded very considerably during the period 1956/57. The main emphasis in the Office's programme has been on rural health projects, seeing that most of the African people concerned live in rural surroundings. The aim is to create a vast network of national health services capable of including and directing special services for the solution of specific problems.

Priority has been given to professional education and training programmes: 78 fellowships have been awarded so far, and it is hoped to bring this number up to 176 by the end of the year (89% of these fellowships were for study outside the Region). Another of the major tasks is health education of the public, and in particular of mothers and children. It was also recently found necessary to organize conferences of a new type for the co-ordination of national campaigns against certain diseases (e.g., malaria and yaws) when such campaigns are being conducted in neighbouring countries. Criteria for the control of yaws and leprosy were established, and the Regional Director expressed the belief that within a few years the yaws control programme will be extended to all those zones of the Region in which the disease is present, and that in two or three years most lepers (numbering at present between 1½ and 2 million) will be undergoing treatment. Except in certain areas in the south-east of the Region, there is no prospect of the eradication of malaria in the near future. The problem is most serious in West Africa where various obstacles have been encountered, due for the most part to the special behaviour of the vector. The only solution to the problem and the best means of interrupting the transmission of the disease in these unfavourable circumstances would be to undertake a co-ordinated programme of research throughout the whole of the West African area.

The proposed programme and budget for 1959 was approved by the Committee and it now awaits confirmation by the Eleventh World Health Assembly. The proposals include, in addition to fellowships, 103 projects for direct assistance to governments, and inter-country projects, for which an amount of about $1 321 000 is required from the Organization's regular budget and about $943 000 from United Nations Technical Assistance. The projects include activities in the fields of nutrition and malnutritional

diseases, bilharziasis, and onchocerciasis; the provision of tuberculosis survey teams, of teams or consultants for the control of malaria, leprosy and treponematoses; the organization of training courses for nurses, midwives and auxiliary health workers; the working-out of health education and maternal and child health programmes; the convening of seminars on brucellosis, veterinary medicine and mental health; the provision of financial aid to research workers studying the etiology of cancer in Africa and its relation to certain parasitoses.

During the technical discussions on " The role of rural health centres in the control of endemic diseases in the Africa Region ", it was agreed that it is not desirable to establish a hard and fast definition of a typical rural health centre, since no one type could be applicable to the whole of Africa. Circumstances and epidemiological conditions vary not only according to geographical location but also from time to time in the same place, and it was recognized that any concept of what a health centre and its functions should be must be open to continual revision. However difficult it may be, it is advisable to fix personnel needs, of whatever category, three or four years in advance so that, as far as possible, teaching programmes may be established accordingly. It was considered that attendance at continuation courses should be made compulsory for personnel attached to rural health centres. Nearly all speakers emphasized the fact that health education of the public is one of the health centre's most important tasks.

The technical discussions next year will centre around the theme of community development and its health aspects. It was decided that the Regional Committee's eighth session would be held in Monrovia (Liberia) and its ninth in Nairobi (Kenya).

Regional Committee for South-East Asia

The tenth session of the WHO Regional Committee for South-East Asia was held from 16 to 20 September 1957 in Rangoon, Burma. The representatives of nine countries of the Region attended. Dr Sein Ban of Burma (Chairman) and Dr J. Sulianti of Indonesia (Vice-Chairman) directed the debates.

Most of the Committee's time was devoted to examination of the annual report on the Regional Office's activities for the period July 1956-July 1957, and of the proposed programme and budget for 1959.

In the report of Dr C. Mani, Regional Director for South-East Asia, dealing with the 131 projects which are at present under way and which are mainly concerned with the control of communicable diseases, the development of rural health services, the strengthening of national health administrations, and professional training, it is pointed out that, although, on the whole, progress in public health is being made in the Region, the activities are, nevertheless, hampered by the general shortage of qualified staff. For this reason, the professional training of field staff and of public health administrators capable of directing public health services continues to be the Office's most important task. Last year, in addition to training " counterpart " teams and organizing a number of seminars and courses, the Office assisted in the running of 40 refresher courses in which 700 medical officers, nurses, sanitary engineers and technicians and other auxiliary health workers participated. Ninety-three fellowships were awarded.

In the opinion of the Regional Director, the health administrations must be strengthened and provided with better weapons for their tasks, at both country and state levels, and, in particular, for engaging in activities in the fields of rural health, maternal and child health, environmental sanitation and health education of the public. The community development projects which are being either implemented or studied at the present time in various countries of the Region undoubtedly represent a logical and natural method of developing the social services, but, in view of the very limited resources available in most countries and the fact that these projects require a great deal of readjustment of relations between the various ministries, progress must inevitably be slow.

During discussion of the report, it was pointed out that the integration of curative and preventive services under a single directorate will probably be accelerated as a result of the development of peripheral health services. The representatives agreed that WHO's efforts for the encouragement of training in preventive and social medicine will undoubtedly contribute considerably to such integration.

As, for some time to come, it will still be necessary for a great part of the work of the health services to be done by semi-qualified staff, the assistance which the Organization gives in the field of professional training should be aimed not only at increasing the numbers of personnel, but also at progressively raising the level of training until it reaches approved standards.

Several participants drew attention to the fact that, although protein insufficiency is a nutritional problem which calls for continuous study, there are also a number of marginal nutritional conditions which offer very favourable terrain for serious parasitic infestations.

The problem of filariasis was discussed, and it appeared that, in one country of the Region, while filariasis could at the present time be controlled in rural areas, this was not the case in urban districts. It was felt that the experience gained in several countries would provide some very enlightening information, and it was suggested that WHO should assemble technical data on the subject.

The view was expressed that, in one country of the Region at least, WHO should assist in organizing a programme for the mass treatment of roundworm infestation, the programme to be implemented by auxiliary health workers. With respect to the same country, it was stated that WHO could with advantage study the question of the care of old people and of chronic and incurable invalids who occupy more and more beds in the hospitals.

A number of representatives expressed the hope that the Organization and the respective governments would combine their efforts to obtain the help of other institutions and bodies—in particular for the production of drugs for mass campaigns.

A number of other questions were debated, including the training of radiological technicians, the training of indigenous midwives, the possibilities of increasing the number of dental health programmes, and the necessity for co-ordinating malaria eradication programmes both within the Region and as between the Region and neighbouring countries belonging to other WHO Regions.

Four meetings were devoted to technical discussions on the theme: " How can health education of the public be more effectively developed in South-East Asia ? " Speakers dealt with the following aspects: planning, organization and budget of health education programmes, training of all those who can be useful in the field of health education, methods and means of teaching the public, analysis of results. In 1958, the theme of the technical discussions will be: " Health aspects of community development programmes ".

The cost of the 1959 programme was estimated at about $3 350 000; this comprises a $1 360 000 allocation from the WHO regular budget, and $1 990 000 from the United Nations Technical Assistance Programme.

The Committee decided to recommend to the WHO Executive Board that the term of office of the present Regional Director—Dr C. Mani—be extended for a period not exceeding five years.

Regional Committee for Europe

The Regional Committee for Europe, consisting of the representatives of 25 Member States, held its seventh session in Copenhagen from 10 to 13 September 1957. The United Nations and 16 international organizations engaged in health work were also represented. At the opening of the session, a tribute was paid to the memory of Dr Gérard Montus, Assistant Regional Director for Europe from 1951 until his death in April 1957. The Committee elected the following officers: Dr J. Frandsen (Denmark), Chairman; Professor G. A. Canaperia (Italy),

First Vice-Chairman; Professor Grashchenkov (USSR), Second Vice-Chairman; Mr J. de Coninck (Belgium), Rapporteur.

After noting with satisfaction that five members—Albania, Bulgaria, Poland, Romania and the USSR—had resumed active participation in the work of WHO, the Committee expressed the hope that the Member States which had not yet notified their decision to resume active participation would be able to do so in the near future. The total number of active Member States in the European region is at present 27.

Dr Paul J. J. van de Calseyde, Regional Director for Europe, presented his report, which describes some 130 projects implemented during the year 1956 to 1957, including mass campaigns against communicable eye diseases in several Mediterranean countries, training courses in various fields (protection against radiation, anaesthesiology, virus diseases, etc.), the award of several hundred fellowships, conferences on health education of the public, malaria eradication and air pollution, the study of the effects on the mental health of children of absence of maternal care, survey of the problems of alcoholism, and many other activities designed to protect and improve the health of the population throughout the European Region. The Committee expressed its satisfaction with the continued progress made during the period under consideration.

The Committee then made certain changes in the 1958 programme and drew up a draft programme for 1959, comprising about 130 projects, as well as budget estimates. The latter include an allocation to the European Region of $1 300 000 from the regular budget of WHO and of $300 000 under the UN Technical Assistance Programme. UNICEF will contribute supplies to joint projects with WHO which may reach a value of $1 500 000.

In view of the increasing importance of the cardiovascular diseases, cancer, and virus diseases, such as poliomyelitis, infectious hepatitis and meningo-encephalitis, the Committee decided to reduce the funds earmarked for tuberculosis surveys in 1958 and 1959 and to use the sums available for extending work in the field of virology and for convening study groups on the cardiovascular diseases and certain public health problems connected with cancer control.

The Regional Office for Europe will continue its training programme for personnel responsible for protection against nuclear radiation. At the suggestion of the representative of Norway, the Committee decided to study, at its next session, public health problems relating to the uses of atomic energy. In this connection, it again drew attention to the importance of establishing and implementing projects concerning the peaceful uses of atomic energy in close contact with the responsible public health authorities.

The Committee also invited the governments of Member States where malaria still exists to intensify their efforts to achieve eradication of the disease, and again stressed the importance of the prevention of accidents to children.

In another resolution it is pointed out that, according to the WHO Constitution, one of the functions of the Organization is " to act as the directing and co-ordinating authority on international health work ", and the need to develop co-ordination so as to avoid overlapping activities is emphasized.

The technical discussions dealt with the " Integration of preventive, social and curative medicine in health services ", a question of great interest both to health administrators and to teachers. The participants considered that there was a need for further improvement in the curricula of medical schools and other training institutions, so as to familiarize health workers with the psychological, physical and social features of health problems. In the opinion of the Committee, moreover, this aspect should form an integral part not only of the teaching of preventive and social medicine, but also of instruction in the basic and clinical sciences. Furthermore, it would be desirable for health administrations to have the opportunity of expressing their views on the curricula of medical schools and of playing an active part in the establishment and implementation of collective hygiene and

sanitation measures of a public health nature (housing, industry, water supply, disposal of sewage, radio-active pollution, food additives, etc.). In addition, research and training institutions should assist health administrations in the evaluation of their activities.

The Committee decided that the subject of the technical discussions at the eighth session should be: " Collaboration between scientific, administrative and educational bodies in improving health services ".

The Committee confirmed its decision to meet in Monaco in 1958, and gratefully accepted the invitation of the Romanian Government to hold the 1959 session in Bucharest.

Regional Committee for the Eastern Mediterranean, Sub-Committee A

Sub-Committee A of the seventh session of the Regional Committee for the Eastern Mediterranean met from 23 to 26 September 1957, in Alexandria. The representatives of 16 countries were present, together with observers from the United Nations, several specialized agencies and certain inter-governmental and non-governmental organizations. Dr Hafez Amin, of Egypt, was elected as Chairman and Drs Abdel Hamid El Toukhi, of Iraq, and Bachir El Roumi, of Saudi Arabia, were appointed as Vice-Chairmen.

In accordance with a wish previously expressed by Sub-Committee A, and with the decision adopted by the Ninth World Health Assembly, Arabic was used for the first time as a working language.

After expressing appreciation of Dr A. T. Shousha's work as Director of the Regional Office for the Eastern Mediterranean, and congratulating his successor, Dr A. H. Taba, the Sub-Committee turned to examination of the annual report on the Office's activities.

Dr Taba, in presenting the report, stated that in 1956/57 the main emphasis had been on control of communicable diseases as in previous years but that, nevertheless, more attention had been paid to the training of personnel and to assistance to governments in the development and organization of national health services. Dr Taba expressed the view that this was " natural and salutary " and showed that certain national health administrations had been able themselves to deal with the problem of communicable diseases, thus releasing funds for other activities. A supplementary credit of $307 000 placed at the disposal of the Eastern Mediterranean Region made it possible to implement new health projects, including several campaigns for the control of bilharziasis, tuberculosis and trachoma.

The report was unanimously adopted, and a number of representatives took the occasion to stress the importance of the contribution made by UNICEF and of the financial aid given by United Nations Technical Assistance. Appreciation was expressed for the co-operation of the United States International Co-operation Administration in the field of health.

The proposed programme and budget for 1959, presented by the Regional Director, were approved. In addition to the proposed budget allocation of about $1 087 000, the Sub-Committee decided to adopt a programme drawn up for the use of $1 009 000 from United Nations Technical Assistance funds and $2 245 000 which, it is hoped, will be made available to the countries of the Region by UNICEF in the form of equipment and supplies.

A number of technical recommendations were put forward, and the Sub-Committee invited the respective governments to adopt a system of compulsory antismallpox vaccination every three or five years, using the new dried antismallpox vaccine which is more stable than liquid vaccine in hot countries.

On the subject of leprosy, it was agreed to do away with the system of compulsory isolation and to replace it by home treatment; it was recognized that it will be necessary to instruct medical personnel and the public on this new method of dealing with the disease, and the Regional Office was asked to assist in the organization of a campaign for this purpose and in the training of staff for the application of treatment.

Anxiety was expressed at the increase in drug-addiction, particularly among young people, and the Sub-Committee requested all Member States to endeavour to eradicate the causes. It also expressed the hope that the competent United Nations organs would take all appropriate measures to ensure control of production and distribution of narcotics.

The Sub-Committee was of the opinion that the eradication of malaria has become a national and international obligation and that national services in charge of the operations should be financially and administratively autonomous as an essential prerequisite for attaining the degree of efficiency necessary for success. It was also proposed that financial and technical aid to countries in a position to convert malaria control into malaria eradication programmes should be developed and accelerated.

Attention was drawn to the constant rise in the number of cases of poliomyelitis in the Region during the past ten years. The Regional Director was asked to make a survey to determine to what extent systematic vaccination against poliomyelitis would be necessary and desirable in the Eastern Mediterranean countries.

The question of bilharziasis was discussed, and it was noted that, in spite of all the efforts made to combat this disease, it still continues to be a serious problem, for the solution of which international assistance is absolutely essential.

A number of other resolutions were adopted concerning long-term planning of national health programmes, control of trachoma and of scalp mycosis.

" Environmental sanitation in rural areas " —a problem considered to be of primary importance in the Region—had been selected as the subject for technical discussions. In fact, unless environmental conditions are improved, most of the other public health measures are liable to remain ineffective. The Sub-Committee earnestly requested Member States to keep a careful watch on activities in this sector of public health, and pointed out that such activities should be in the hands of well-organized services. In 1958, the theme of the technical discussions will be: " Bilharziasis and its control ".

The next meeting of the Sub-Committee is to be held in Baghdad in accordance with a decision taken last year after the receipt of an invitation from the Government of Iraq. In 1959, the annual meeting will again be held at the Regional Office in Alexandria.

Regional Committee for the Western Pacific

Following an invitation extended by the Government of the United Kingdom and the Government of Hong Kong, the Regional Committee for the Western Pacific held its eighth session in Hong Kong from 5 to 11 September 1957, with the participation of all the Member States of the Region. UNICEF, the United Nations Technical Assistance Board, the South Pacific Commission, as well as 11 non-governmental organizations in official relationship with WHO sent representatives. The Federation of Malaya and the United States International Co-operation Administration sent observers. The discussions were presided over by Dr G. Graham-Cumming (United Kingdom), Chairman, and by Dr Leroy Burney (United States of America), Vice-Chairman. Mr Yu Sun Yun (Korea) and Dr Le Van Khai (Viet Nam) were elected as Rapporteurs.

The Committee considered the annual report (1 July 1956-30 June 1957) on the activities of the Regional Office. Dr I. C. Fang, Regional Director for the Western Pacific, stressed in the report that the Regional Office had been mainly concerned with determining the best ways of assisting governments to develop their public health programmes, while bearing in mind the difficulties caused in certain countries by the lack of qualified personnel at all levels. This is why the main effort has been directed to developing means of training by granting fellowships for study abroad, raising the level in the existing schools, and organizing conferences, seminars and further-training courses on a regional basis.

According to the Regional Director, the advisory role played by WHO field personnel

is better understood. Although it is always difficult to find counterpart personnel, it is being realized that the Organization is endeavouring to assist and train national personnel so as to take over the work after the WHO teams and consultants have left.

The Regional Office has encouraged certain activities to which the World Health Assembly and the Executive Board have drawn attention e.g. study of the methods for collection and disposal of organic wastes, and of problems connected with the peaceful use of atomic energy. Work has continued in the field of communicable disease and there has been an expansion of programmes for the control of yaws and malaria; two groups of countries have officially established inter-country boards for malaria control work. An attempt has been made to consolidate the results of BCG campaigns and to integrate the latter into the permanent public health services. The maternal and child health programmes are becoming more and more part of the general health services and there is increasing awareness of mental health problems. Health education occupied a prominent place in the programme of courses given for professional and ancillary personnel. Assistance to training establishments has taken the form both of money and of equipment. During the year, 53 fellowships were awarded and the possibility of training more fellows in the Region itself is still under study.

After having considered the report, the Committee noted with satisfaction the progress achieved in the Western Pacific. It expressed the wish that increasing attention be paid in future to the medical use of radioactive substances. It also recommended that priority be given to the convening in 1958 of a regional symposium on the resistance of insects to insecticides, if funds should become available, and that the collection and dissemination of information on the status of research concerning this problem should be continued.

The Committee endorsed the recommendation of the Tenth World Health Assembly concerning the financing of the Malaria Eradication Special Account from governmental and extra-governmental funds. The Regional Director was requested: to continue the promotion of inter-country co-ordination of antimalaria planning and operations; to collect from governments within the Region information as regards the development of their malaria control or malaria eradication programmes, so that such data can be centralized by WHO and transmitted to other interested governments; to undertake negotiations with the aim of organizing the first of the antimalaria personnel training courses as soon as possible, bearing in mind the urgency of this question in view of the danger of the development of insecticide resistance among the vector species; to arrange for these courses to be held successively in all countries of the Region where adequate facilities are available and which are engaged in malaria control work, so that such training may be both theoretical and practical.

The programme and budget estimates adopted for 1959 provide for the financing of the activities of the Region by an allocation of about $1 297 000 from the WHO regular budget and an allocation estimated at $615 200 from the United Nations Technical Assistance Board.

The subject of the technical discussions which took place this year was " Leprosy control." The majority of those taking part were in favour of the system of voluntary and selective segregation, and all agreed that no means of detecting cases of the disease should be neglected. Such case-finding should take place in medical clinics and hospitals of all kinds, as well as by sending mobile teams to areas of high incidence, by the routine examination of schoolchildren, by making use of information supplied by general practitioners and by making leprosy case-finding part of the duties of BCG and treponematosis control teams. Health education, which is essential in leprosy control, should be directed not only to patients, members of the medical and ancillary professions and the population in general, but also to the authorities concerned with legislation and education. In countries where prevalence is high, more

instruction about leprosy should be included in medical curricula and in post-graduate courses in public health. As regards rehabilitation, several participants stated that plastic surgery had not given the results anticipated. Once the patient has been cured, he must in fact be again accepted by his family and the community, and, because of this, leprosy is a disease which must also be combated in the social field.

Next year the Committee will devote its technical discussions to "Malaria control and eradication." The Regional Committee for the Western Pacific will hold its ninth session at Manila and its tenth session in Taipeh, Taiwan (China).

Expert Committee on the International Pharmacopoeia

At its meeting in Geneva from 2 to 8 October last, the WHO Expert Committee on the International Pharmacopoeia continued work on the preparation of proposed specifications for the examination of pharmaceutical preparations, taking modern analytical methods into consideration.

The major part of the session was devoted to the examination of comments from governments, national pharmacopoeia commissions, members of the WHO Expert Advisory Panel on the International Pharmacopoeia and Pharmaceutical Preparations, and other specialists consulted on specifications to be included in a Supplement to the International Pharmacopoeia. Among the other subjects discussed were the WHO Centre for Authentic Chemical Substances now operating in Stockholm, and the possibility of providing periodic information sheets on new pharmaceutical preparations to national authorities concerned with their examination.

Volume I of the first edition of the International Pharmacopoeia was published by WHO in 1951 in order to meet a long-standing need for proposed specifications for widely-used pharmaceutical preparations. A second volume was published in 1955, to be followed by a Supplement, and a second edition is in preparation. Both volumes of the first edition of the International Pharmacopoeia have now been published by WHO in English, French and Spanish, and editions in German and Japanese are also available.

The following experts attended the session: Professor H. Baggesgaard Rasmussen (Denmark), Dr T. Canbäck (Sweden), Mr T. C. Denston (United Kingdom), Professor H. Flück (Switzerland), Dr T. Itai (Japan), Mr F. A. Maurina (USA), Dr L. C. Miller (USA) and Dr J. L. Powers (USA).

Classification of atherosclerotic lesions

The classification of atherosclerotic lesions varies considerably from country to country. This makes pathological comparisons on the international level extremely difficult, and it is therefore urgent to reach agreement on a basis for classification.

A Study Group to discuss the possibilityof developing a classification with uniform terminology and establishing acceptable methods of grading atherosclerotic lesions was convened by WHO in Washington, D.C., from 7 to 11 October 1957. The meeting was conducted by the Pan American Sanitary Bureau, the WHO Regional Office for the Americas.

The fifteen experts participating in the meeting also reviewed the geographic pathology of atherosclerosis, and discussed a proposal for the establishment of regional centres for atherosclerosis research. Procedures for the classification of experimental degenerative vascular lesions were discussed, together with the bearing of these lesions on the classification of atherosclerosis in man.

The following experts attended the meeting: Dr J. de Brux (France), Dr Harold F. Dorn (USA), Professor J. B. Duguid (United Kingdom), Professor H. Hamperl (Germany), Professor W. Hartroft (USA), Professor John Higginson (Union of South Africa), Professor J. F. A. McManus (USA), Professor Toru Miyaji (Japan), Professor James C. Paterson (Canada), Professor Carlos Restropo (Colombia), Dr J. P. Strong (USA), Professor A. I. Strukov (USSR), Dr Carlos

Tejada (Guatemala), Professor Henry Ungar (Israel), and Dr P. N. Wahi (India).

Joint FAO/WHO Expert Committee on Nutrition

The fifth Joint FAO/WHO Expert Committee on Nutrition met at FAO Headquarters, Rome, from 22 to 29 October, to review progress since the meeting of the fourth Joint Committee on Nutrition held in Geneva in 1954. Most of the proposals made at that meeting had been carried out. For example, it had been proposed that committees or study groups should be convened to consider requirements for calories, requirements for proteins, food additives, and nutrition and degenerative diseases. These groups had met and their reports were submitted to the Committee.

The Committee examined a programme for the production of protein-rich foods for children at the post-weaning age. It also reviewed the whole question of education and training which is of vital importance in the prevention of nutritional disease.

The three most important items on the agenda were perhaps those concerned with deficiency diseases for which extensive prevention programmes are required. Beri-beri, the first of these diseases, seems to be on the increase in the large rice-producing areas of the South-East Asia and Western Pacific Regions, owing to the growing use of small power-driven mills which produce a very highly milled rice deficient in thiamine. The disease causes chronic disability in adults and many deaths among children.

Avitaminosis A, the second of these diseases, is common in Asia, where it is a major public health problem in some countries. It is most frequently found in its acute form among children of pre-school age, causing many cases of blindness and a number of deaths.

The third deficiency disease considered by the Committee was anaemia. While the disease is due to a number of different causes, there is good evidence of its association with inadequate nutrition, e.g., its persistence after malaria eradication in countries where it was previously considered to be linked with malaria.

The Committee also discussed the establishment of criteria for the broad assessment of the food consumption and state of nutrition of population groups, and the related questions of calcium intake and the contamination by strontium " fall-out " of plants and animals used as human foods.

The following experts took part in the meeting: Professor W. J. Darby (USA), Dr J. Deeny (Ireland), Professor M. J. L. Dols (Netherlands), Dr Toshio Oiso (Japan), Dr V. N. Patwardhan (India), Professor B. S. Platt (United Kingdom), Dr V. Ramalingaswami (India), Dr Hazel K. Stiebeling (USA), Professor E. F. Terroine (France), and Dr Rudolf Wenger (Austria).

Training of health personnel in health education of the public

The importance of training professional and auxiliary health workers for the health education of individuals, families and the general public is widely recognized by national health authorities, and has been repeatedly stressed at WHO regional conferences, seminars and technical discussions during the past ten years. WHO accordingly invited an Expert Committee on Training of Health Personnel in Health Education of the Public to meet in Geneva from 28 October to 1 November 1957. The Committee consisted of seven members representing public health administration, health education, medical education, nursing, and advanced public health nursing.

The topics discussed by the Committee included: the attitudes, knowledge and skills required for effective health education work; principles and factors to be considered in the training of health personnel for this work; and teaching methods that have proved successful in training of this type.

The following experts served on the Committee: Miss O. Baggalay (United Kingdom), Dr J. Burton (United Kingdom), Dr V. S. Erchov (USSR), Professor L. Morgan (USA),

Professor J. Parisot (France), Professor V. García de Yazigi (Chile), and Dr A. Zaki (Sudan).

Expert Committee on Insecticides

The eighth WHO Expert Committee on Insecticides met in Geneva from 18 to 23 November to consider problems of insect resistance and vector control. In 1956, the seventh Expert Committee on Insecticides had noted that the problem of resistance was growing more rapidly than the measures to deal with it and recommended that WHO act as a co-ordinating agency for research into the following aspects of this problem: the collection and dissemination of information; the promotion of needed research; the procurement of personnel and funds; the adoption of standard test-methods; the procurement and testing of new insecticides; liaison activities; and meetings and conferences.

As well as reviewing progress throughout the world in these fields during the past 15 months, the eighth Committee made recommendations for test methods to determine the susceptibility to insecticides of insects of medical importance, notably adult mosquitos, on which a considerable amount of research had been carried out by a working group drawn from the WHO Expert Advisory Panel on Insecticides. The Committee also considered the establishment of a bioassay method for determining residues of insecticides on wall surfaces.

Finally, the Committee drew up recommended methods for vector control, with particular reference to the emergence of resistance, to serve as a guide to field programmes on the conduct of vector control operations. Experts on vector control from all parts of the world have collaborated in providing data for the consideration of the Committee. The recommendations made at the meeting will be revised at regular intervals in accordance with scientific developments.

The experts invited to attend the meeting were: Dr L. J. Bruce-Chwatt, Senior Specialist, Malaria Service, Yaba-Lagos, Nigeria; Dr J. R. Busvine, London School of Hygiene and Tropical Medicine, London, UK; Dr Marshall Laird, Macdonald College of McGill University, Quebec, Canada; Dr T. Ramachandra Rao, Assistant Director of Public Health (Malaria), Poona, India; Dr G. Saccà, Istituto Superiore di Sanità, Rome, Italy; Dr S. W. Simmons, Chief, Technology Branch, United States Public Health Service, Communicable Disease Center, Atlanta, Ga., USA.

Fifth Borneo Inter-Territorial Malaria Conference

The Fifth Borneo Inter-Territorial Malaria Conference, convened by the WHO Regional Office for the Western Pacific, was held in Labuan, North Borneo, from 26 to 28 November. It was attended by representatives from North Borneo, Brunei and Sarawak, and by WHO field staff working in malaria projects in these territories. The Malaria Adviser of the WHO Regional Office for the Western Pacific and a member of the Malaria Section of WHO Headquarters, Geneva, were also present.

The Conference reviewed the antimalaria programmes in the three territories represented, and the liaison problems involved. The agenda adopted also included such items of special interest as: the use of antimalarial drugs as a supplement to residual spraying; the relative merits of DDT and dieldrin and optimum spraying cycles; the problem of temporary farm huts; precautions to be observed in the use of certain insecticides; the resistance of malaria vector species to insecticides and the use of susceptibility tests; methods of evaluation of antimalaria projects, supplies and equipment; and the recruitment and training of local personnel.

The first of these inter-territorial conferences was held in Kuching, Sarawak, in February 1956; the second in Marudi, Sarawak, in May 1956; the third in Kuching, Sarawak, in December 1956; and the fourth in Keningau, North Borneo, in April 1957. Their aim is to stimulate and co-ordinate

antimalaria programmes in the three neighbouring territories by enabling administrators and technical personnel to meet for exchanges of information and the discussion of common problems, both administrative and technical.

Radioisotopes in scientific research

The use of radioisotopes has many health implications, and WHO was therefore particularly interested in the International Conference on Radioisotopes in Scientific Research, held in Paris by UNESCO from 9 to 20 September 1957.

The Conference, which was attended by some 1200 scientists representing 61 countries and 25 international organizations, was divided into two sections for the reading and discussion of original scientific papers. One section dealt with the use of radioisotopes in physics and chemistry, and the other with their use in biology.

Although the questions of radiation protection in relation to public health and the clinical uses of radioisotopes in diagnosis and treatment did not come within the terms of reference of the Conference, WHO had the opportunity of presenting, in co-operation with UNESCO, four evening lectures on these subjects. They were: " The general problems of the new permissible levels of radiation ", by Dr Lauriston S. Taylor; " Problems of waste disposal in the wide-scale use of radioisotopes ", by Dr W. G. Marley; " Therapeutic uses of isotopes in medicine ", by Professor M. Tubiana; and " Diagnostic use of isotopes in medicine ", by Professor R. Fauvert.

Course in radiation protection

From 30 September to 31 October, physicians, physicists and engineers from eighteen countries in the European and Eastern Mediterranean Regions attended an advanced course in radiation protection organized by WHO in co-operation with the Belgian Government. The course took place at the Centre d'Etudes pour l'Energie nucléaire at Mol, Belgium, and included instruction in the general principles of health physics, supervision at reactors and radiochemical laboratories, monitoring methods and dosimetry. It also dealt with safety factors in uranium and plutonium factories, environmental hazards and reactor site selection, waste disposal, and safety factors in laboratory design.

The course at Mol was the second international course in radiation protection to be organized by WHO; the first of these courses was held in Stockholm in 1955.

International course on tuberculosis

The eighth international training course on tuberculosis was held from 7 to 26 October 1957 in Istanbul. This course for public health nurses and physicians—given in French and in Turkish—was organized by the Turkish Antituberculosis League with the collaboration of the Turkish Ministry of Health and Social Welfare and of WHO.

Professor Tevfik Saglam and Dr Ismaïl Gokçe were in charge of the course and several experts sent out by WHO participated in it, including Dr E. Anjaleu, Director of Social Hygiene at the Ministry of Public Health and Population, Paris, Dr E. Berthet, Director-General of the International Children's Centre, Dr A. Lotte, Chief of the Tuberculosis Section of the National Institute of Hygiene, Paris, and Mlle F. Cornet, WHO nursing consultant.

The course was attended by 17 physicians and 9 nurses from seven countries (Bulgaria, Israel, Poland, Spain, Syria, Turkey, Yugoslavia). The main emphasis was on the practical public health aspects of antituberculosis work, on epidemiology, health education and medico-social activities.

Seminar on the Nurse in the Psychiatric Team

The WHO Regional Office for Europe, in association with the Government of the Netherlands, held a European Seminar on the Nurse in the Psychiatric Team at Noordwijk Aan Zee, Netherlands, from 4 to 15 November. This Seminar was attended by nurses, psychiatrists and psychiatric

social workers selected by the governments of eighteen European countries.

The Seminar discussed the role of psychiatric nurses, not only in mental hospitals, but in an increasing number of mental health services to the community. The psychiatric services of various European countries were examined, and the functions of each member of the psychiatric team were discussed, with particular reference to those of the nurse. During this discussion, the basic and post-basic training of psychiatric nurses was reviewed.

The main topics of the Seminar were introduced by lectures and then discussed by groups, each consisting of 12 persons. Each group included members from the various disciplines taking part in the Seminar. The work of the discussion groups was reported to the Seminar as a whole at plenary sessions. The programme also included visits to mental health services in the Netherlands.

Inter-Regional Conference on Leprosy

A WHO Inter-Regional Conference on Leprosy will be held in New Delhi in 1958, for medical officers in charge of leprosy control services in the endemic areas of South-East Asia. The Conference will take place immediately after the Seventh International Congress of Leprology organized in New Delhi by the International Leprosy Association with the collaboration of the Government of India.

The International Congress is attended by leprologists from all over the world and meets every five years for discussions on recent advances in all branches of leprosy work. This will enable the participants in the WHO Inter-Regional Conference to benefit from conclusions reached by the Congress, particularly in their practical application to their own national problems of leprosy control. Proposals may also be made for special leprosy control activities, either national or with international assistance, such as the training of specialists for extended control programmes, and the teaching of surgical and related techniques used in the rehabilitation of patients.

Two well-known leprologists, Professor J. Gay Prieto and Dr B. D. Molesworth, will assist in preparing this Conference which is expected to be the first of a series of similar regional meetings.

Professor Gay Prieto, Professor of Dermatology at the University of Madrid, has already collaborated with WHO as leprosy consultant in Indonesia, Turkey, French West and Equatorial Africa and the Cameroons, and was Vice-Chairman of the organizing committee of the Sixth International Congress of Leprology in Madrid in 1953.

Dr D. Molesworth has directed the leprosy institution at Sungei Buloh, Malaya, for the last 11 years, and has wide experience of the clinical and social aspects of leprosy.

Dr M. G. Candau to remain Director-General until July 1960

Dr M. G. Candau, Director-General of WHO, whose mandate would have expired on 21 July 1958, has accepted the offer made by the Tenth World Health Assembly to renew his contract,[1] and has asked that this renewal be for a further period of two years.

Dr S. Al-Wahbi, President of the Tenth World Health Assembly, has communicated Dr Candau's decision to WHO Member States and to the members of the Executive Board, and informed them that he will sign the renewal of the Director-General's contract on behalf of the Organization.

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[1] See *Chron. Wld Hlth Org.*, 1957, **11**, 192.